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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RYMAN, DANIEL J	
ART UNIT	**PAPER NUMBER**
2665	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/778,764	PAUWELS, BART JOSEPH GERARD	
	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☒ Claim(s) *1* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).

Information Disclosure Statement

2. The information disclosure statement filed 2/8/2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Portions of the Widjaja reference were illegible. Therefore, Examiner requests that Applicant submits a new copy of this reference.

Claim Objections

3. Claim 1 is objected to because of the following informalities: in line 3 "prioritised" should be "prioritized". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-4, 6-15, 23, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Regarding claims 1 and 6, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See

MPEP § 2173.05(d). For the purposes of prior art rejections, Examiner will disregard the phrase "such as any one of a slot and a bit".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Calvignac et al. (USPN 5,557,608).

9. Regarding claim 1, Calvignac discloses a method of transmitting data traffic having a predetermined minimum transmittable element (block) and being received from a number of prioritized sources (col. 3, lines 29-60 and col. 5, lines 21-33) comprising the steps of: (a) setting the highest priority source with data traffic waiting for transmission as current transmission source (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5, lines 44-56); (b) transmitting the data traffic from the current transmission source until completion whilst monitoring the sources for waiting traffic, wherein if traffic is detected from a source with a higher priority than the current transmission source going to step (d) (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5, lines 44-56); (c) upon completion, going to step (a) (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5, lines 44-56); and, (d) completing transmission of the current minimum transmittable element and going to step (a) (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5, lines 44-56).

10. Regarding claim 2, Calvignac discloses that step (b) comprises the further steps of adapting the data traffic before transmission to include, where not already present, one or more

reassembly indicators (trailer) for use in reassembling the data traffic upon receipt (col. 2, lines 5-15; col. 5, lines 34-56; and col. 7, lines 14-20).

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

12. Claim 16 is rejected under 35 U.S.C. 102(a) as being anticipated by Applicant's Admitted Prior Art.

13. Regarding claim 16, Applicant discloses a switch comprising an input from which a data stream is received, the data stream comprising interleaved portions of traffic, a number of output queues and a processor (page 3, lines 6-28), wherein the processor is configured to separate the interleaved traffic into respective ones of the output queues for reassembly of individual traffic streams from the data stream (page 3, lines 6-28).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 3, 4, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calvignac et al. (USPN 5,557,608).

16. Regarding claim 3, Calvignac does not expressly disclose that the minimum transmittable element for traffic of asynchronous and bit-synchronous protocols is a bit. However, Calvignac

does disclose that the minimum transmittable element is the size of a block and that the size of the block can be set according to the delay of the real-time traffic (col. 5, lines 20-33). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Calvignac discloses that the minimum transmittable element is a certain size, it would have been obvious to one of ordinary skill in the art to vary the size to be any size, including one bit, absent a showing of criticality by Applicant.

17. Regarding claim 4, Calvignac does not expressly disclose that the minimum transmittable element for traffic of slot-synchronous protocols is a slot. However, Calvignac does disclose that the minimum transmittable element is the size of a block and that the size of the block can be set according to the delay of the real-time traffic (col. 5, lines 20-33). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195

USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Calvignac discloses that the minimum transmittable element is a certain size, it would have been obvious to one of ordinary skill in the art to vary the size to be any size, including one slot, absent a showing of criticality by Applicant.

18. Regarding claim 24, Calvignac does not expressly disclose that the method is implemented using a computer program product comprising a number of computer executable instructions. Examiner takes official notice that it is well known in the art to implement a method using software since software is more flexible than hardware. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the method using software since software is more flexible than hardware.

19. Claims 5-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Calvignac et al. (USPN 5,557,608).

20. Regarding claims 5 and 6, Applicant discloses a switch implementing a method where the switch comprises a number of memory devices defining queues for receiving traffic to be switched (page 3, lines 6-28) and a processor for controlling the transmission of traffic from the queues to an output (page 3, lines 6-28), the processor being configured to implement the method by transmitting traffic from input queues to the output queues (page 3, lines 6-28), the traffic having a predetermined minimum transmittable element (page 1, line 20-page 2, line 6), wherein the processor is configured to monitor the queues to determine whether traffic has arrived at a queue (page 3, lines 6-28).

Applicant does not expressly disclose that each queue has an associated predetermined priority classification; the processor being configured to transmit traffic from the higher priority

classified queues before traffic from lower priority classified queues, wherein the processor is configured to monitor the queues to determine whether traffic has arrived at a queue having a higher priority classification than the queue from which traffic is currently being transmitted, the processor being responsive to suspend the current transmission after transmission of the current minimum transmittable element if traffic has arrived at a higher priority classified queue and thereafter transmit traffic from that queue, and subsequently resume the suspended transmission.

Calvignac teaches, in a packet switching system, having a processor, configured to monitor traffic, preempt low priority traffic located in low priority queues to transmit high priority traffic located in high priority queues and then resume transmission of the low priority traffic when there is no high priority traffic in order to ensure that the high priority traffic is not subject to significant delays (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5, lines 44-56). Calvignac also transmits data according to blocks (col. 5, lines 20-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to associate each queue with predetermined priority classification; and to configure the processor to transmit traffic from the higher priority classified queues before traffic from lower priority classified queues, the traffic having a predetermined minimum transmittable element, wherein the processor is configured to monitor the queues to determine whether traffic has arrived at a queue having a higher priority classification than the queue from which traffic is currently being transmitted, the processor being responsive to suspend the current transmission after transmission of the current minimum transmittable element if traffic has arrived at a higher priority classified queue and thereafter transmit traffic from that queue, and subsequently resume

the suspended transmission in order to ensure that the high priority traffic is not subject to significant delays.

21. Regarding claim 7, Applicant in view of Calvignac discloses that the processor is configured to adapt traffic received from the queues to include one or more reassembly indicators (trailer and start/end flags), where not already present (Calvignac: col. 2, lines 5-15; col. 5, lines 34-56; and col. 7, lines 14-20).

22. Regarding claim 8, Applicant in view of Calvignac discloses that the reassembly indicators comprise different start ('7E' flag) and end indicators ('7E' flag and trailer) for each cell or packet in the traffic (Calvignac: col. 4, lines 15-16 and col. 5, lines 34-56).

23. Regarding claim 9, Applicant in view of Calvignac discloses that the reassembly indicators comprise start and length indicators for each cell or packet in the traffic (Applicant: page 1, line 20-page 2, line 6 and Calvignac: col. 4, lines 15-16 and col. 5, lines 34-56).

24. Regarding claim 10, Applicant in view of Calvignac discloses that the reassembly indicators include the queue's priority classification (Bit B5 of the trailer byte) (Calvignac: col. 5, line 65-col. 6, line 9).

25. Regarding claim 11, Applicant in view of Calvignac discloses that the processor is configured to adapt each packet or cell in the traffic received from the queues to include an indication of the queue's priority classification (Calvignac: col. 5, lines 34-56 and col. 5, line 65-col. 6, line 9).

26. Regarding claim 12, Applicant in view of Calvignac implicitly discloses that the processor is configured to store predetermined details of interrupted traffic transmissions and their respective queues in one of the memory devices and to retrieve the details for use in

resuming the interrupted transmission once the interrupting transmission is completed (Applicant: page 1, lines 6-26 and page 3, lines 6-28 and Calvignac: col. 3; lines 13-60; col. 4, lines 4-10; and col. 5, lines 44-56).

27. Regarding claim 13, Applicant in view of Calvignac discloses that a number of outputs, wherein the processor is configured to transmit traffic to an appropriate output in dependence on the traffic's destination address (Applicant: page 1, lines 6-26 and Calvignac: col. 3, lines 13-27).

28. Regarding claim 14, Applicant in view of Calvignac does not expressly disclose that the minimum transmittable element for traffic of asynchronous and bit-synchronous protocols is a bit. However, Applicant in view of Calvignac does disclose that the minimum transmittable element is the size of a block and that the size of the block can be set according to the delay of the real-time traffic (Calvignac: col. 5, lines 20-33). Applicant in view of Calvignac also discloses that some data is transmitted according to slots rather than packets (Applicant: page 1, line 20-page 2, line 6). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant in view of Calvignac discloses that the minimum transmittable element is a certain size, it would have been obvious to

one of ordinary skill in the art to vary the size to be any size, including one bit, absent a showing of criticality by Applicant.

29. Regarding claim 15, Applicant in view of Calvignac does not expressly disclose that the minimum transmittable element for traffic of slot-synchronous protocols is a slot. However, Applicant in view of Calvignac does disclose that the minimum transmittable element is the size of a block and that the size of the block can be set according to the delay of the real-time traffic (Calvignac: col. 5, lines 20-33). Applicant in view of Calvignac also discloses that some data is transmitted according to slots rather than packets (Applicant: page 1, line 20-page 2, line 6). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant in view of Calvignac discloses that the minimum transmittable element is a certain size, it would have been obvious to one of ordinary skill in the art to vary the size to be any size, including one slot, absent a showing of criticality by Applicant.

30. Regarding claim 17, Applicant does not expressly disclose that the processor is configured to monitor traffic, passing it to an output queue until it detects a start indicator within the data stream, wherein the processor is configured to pass subsequent traffic to a further output queue until the end of an interleaved portion of traffic is determined, thereafter the processor is

configured to pass subsequent traffic to the prior output queue, or until a further start indicator is detected within the data stream, wherein the processor is configured to pass subsequent traffic to a further output queue. Calvignac teaches, in a packet switching system, having a processor, configured to monitor traffic, preempt low priority traffic to transmit high priority traffic and then resume transmission of the low priority traffic when there is no high priority traffic in order to ensure that the high priority traffic is not subject to significant delays (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5, lines 44-56). Calvignac designates the start and end of packets by flags (col. 4, lines 16-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to configure the processor to monitor traffic, passing it to an output queue until it detects a start indicator (start flag) within the data stream, wherein the processor is configured to pass subsequent traffic (high priority) to a further output queue until the end of an interleaved portion of traffic is determined, thereafter the processor is configured to pass subsequent traffic (low priority traffic) to the prior output queue, or until a further start indicator is detected within the data stream, wherein the processor is configured to pass subsequent traffic (high priority traffic) to a further output queue in order to ensure that the high priority traffic is not subject to significant delays.

31. Regarding claim 18, Applicant in view of Calvignac that the end of an interleaved portion of traffic is determined in dependence on a portion length indicator within the interleaved portion of traffic (Applicant: page 1, line 20-page 2, line 6).

32. Regarding claim 19, Applicant in view of Calvignac discloses that the end of an interleaved portion of traffic is determined from end indicator within the data stream (Applicant: page 1, line 20-page 2, line 6 and Calvignac: col. 2, lines 3-15 and col. 5, lines 34-56).

33. Regarding claim 20, Applicant in view of Calvignac discloses that each interleaved portion of traffic includes a priority indicator (Calvignac: col. 3, lines 28-46), wherein the end of an interleaved portion of traffic is determined from a drop in level of the priority indicator (Calvignac: col. 3, lines 31-34; col. 5, lines 43-56; and col. 5, line 65-col. 6, line 9).

34. Regarding claim 21, Applicant in view of Calvignac discloses that each interleaved portion of traffic includes a priority indicator (Calvignac: col. 3, lines 28-46), wherein a start indicator comprises a rise in the level of the priority indicator (Calvignac: col. 3, lines 31-34; col. 5, lines 43-56; and col. 5, line 65-col. 6, line 9).

35. Regarding claim 22, Applicant in view of Calvignac suggests that the processor is configured to operate as state machine (Figs. 11 and 12 and col. 7, lines 8-col. 8, line 5, esp. col. 7, line 45-col. 8, line 5) where the use of the word "state" in the description suggests a state machine.

36. Regarding claim 23, Applicant in view of Calvignac discloses a telecommunications network comprising a claimed switch (Applicant: page 1, lines 6-14 and Calvignac: col. 3, lines 13-22).

Conclusion

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ellis et al. (USPN 5,497,371) see entire document which pertains to interrupting low priority data to transmit high priority data. Hayter et al. (USPN 5,677,906) see entire document which pertains to interrupting low priority data to transmit high priority data. Jardine (USPN 5,619,647) see entire document which pertains to interrupting low priority data to transmit high

priority data. Petersen et al. (USPN 5,802,051) see entire document which pertains to interrupting low priority data to transmit high priority data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
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